

CLAIMS

1. A substantially pure fatty-acid monoester of an estrogen and a fatty acid, wherein the estrogen is selected from the group consisting of estrone, diethylstilbestrol, estriol and
5 ethinyl estradiol; and the fatty acid is selected from the group consisting of eicosenoic acid, C-22 fatty acid, cis 13 docosenoic acid, and the C-24 fatty acid, cis 15 tetracosenoic.
2. The fatty-acid monoester according to claim 1, wherein the fatty acid is cis 11 eicosenoic acid.
3. A substantially pure fatty-acid monoester selected from the group consisting of an
10 estrogen combined with one fatty acid from the group consisting of eicosenoic, docosenoic acid and tetracosenoic acid.
4. A substantially pure fatty-acid monoester consisting of estrone monoeicosenoate.
5. A substantially pure fatty-acid monoester consisting of diethylstilbestrol monoeicosenoate.
- 15 6. The substantially pure fatty-acid monoester of claim 1, wherein the estrogen is estrone and the fatty acid is cis 11 eicosenoic acid.
7. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, in combination with at least one excipient acceptable for a
20 predetermined administration via and in an amount sufficient for the purposes thereof; wherein the estrogen is selected from the group consisting of estrone, diethylstilbestrol, estriol, estradiol and ethinyl estradiol; and the fatty acid is selected from the group consisting of eicosenoic acid, the C-22 fatty acid, cis 13 docosenoic acid, and/or the C-24 fatty acid, cis 15 tetracosenoic acid.
- 25 8. The pharmaceutical and/or cosmetic composition according to claim 7, wherein said administration via is intravenous injection, and the fatty-acid monoester is integrated in a lipidic suspension.
9. The pharmaceutical and/or cosmetic composition according to claim 7, wherein said lipidic suspension is a lipoprotein suspension.
- 30 10. The pharmaceutical and/or cosmetic composition according to claim 7, wherein said lipidic suspension is a liposome suspension.
11. The pharmaceutical and/or cosmetic composition according to claim 10, wherein said liposome suspension is obtainable by addition of soy oil and egg phospholipids.

12. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof, wherein:

5 the estrogen is selected from the group consisting of estrone, diethylstilbestrol, estriol and ethinyl estradiol; and

the fatty acid is selected from the group consisting of eicosenoic acid, C-22 fatty acid, cis 13 docosenoic acid, and the C-24 fatty acid, cis 15 tetracosenoic acid.

13. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of estrone and eicosenoic acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof.

14. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof; wherein the estrogen is selected from the group consisting of estrone, diethylstilbestrol, estriol and ethinyl estradiol; and the fatty acid is selected from the group consisting of the fatty acid eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid.

15. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, wherein the estrogen is selected from the group consisting of estrone, diethylstilbestrol, estriol, estradiol and ethinyl estradiol, the fatty acid is selected from the group consisting of eicosenoic acid, C-22 fatty acid, cis 13 docosenoic acid, and the C-24 fatty acid, cis 15 tetracosenoic acid, in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.

16. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a monoester of estrone and eicosenoic acid in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.

17. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of the fatty acid monoester of cis 11 eicosenoic acid and estrogen in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.
18. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, wherein the estrogen is selected from the group consisting of estrone, diethylstilbestrol, estriol and ethinyl estradiol; and the fatty acid is selected from the group consisting of eicosenoic acid, C-22 fatty acid, cis 13 docosenoic acid, and the C-24 fatty acid, cis 15 tetracosenoic acid, in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.
19. A substantially pure fatty-acid monoester of an estrogen and a fatty acid, wherein the estrogen is selected from the group consisting of estrone, diethylstilbestrol, estriol and ethinyl estradiol; the fatty acid is selected from the group consisting of eicosenoic acid, C-22 fatty acid, cis 13 docosenoic acid, and the C-24 fatty acid, cis 15 tetracosenoic acid and with the proviso that, when the estrogen is steroidal and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester.
20. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof; wherein the estrogen is selected from the group consisting of estrone, diethylstilbestrol, estriol, estradiol and ethinyl estradiol; the fatty acid is selected from the group consisting of eicosenoic acid, the C-22 fatty acid, cis 13 docosenoic acid, and/or the C-24 fatty acid, cis 15 tetracosenoic acid, and with the proviso that, when the estrogen is steroidal and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester.

21. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof; 5 wherein the estrogen is selected from the group consisting of estrone, diethylstilbestrol, estriol and ethinyl estradiol; the fatty acid is selected from the group consisting of the fatty acid eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid, and with the proviso that, when the estrogen is steroidal and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl 10 group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester.

22. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, wherein the estrogen is selected from the group consisting of estrone, 15 diethylstilbestrol, estriol, estradiol and ethinyl estradiol, the fatty acid is selected from the group consisting of eicosenoic acid, C-22 fatty acid, cis 13 docosenoic acid, and the C-24 fatty acid, cis 15 tetracosenoic acid, and with the proviso that, when the estrogen is steroidal and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 20 position of the steroid ring system in the fatty acid monoester, in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.

23. A method of lowering body weight in a mammal comprising administering to said 25 mammal an effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, wherein the estrogen is selected from the group consisting of estrone, diethylstilbestrol, estriol and ethinyl estradiol; the fatty acid is selected from the group consisting of eicosenoic acid, C-22 fatty acid, cis 13 docosenoic acid, and the C-24 fatty acid, cis 15 tetracosenoic acid, and with the proviso that, when the estrogen is steroidal 30 and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester, in combination with amounts of at least one member selected from the group consisting of pharmaceutically

acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.

24. A molecule consisting of a substantially pure combination of:

- a) a monounsaturated fatty acid molecule of 20 carbon atoms or more, and
- b) a steroid;

wherein the steroid and fatty acid are linked together.

25. The monounsaturated fatty acid and steroid combination molecule of claim 25, wherein the monounsaturated fatty acid molecule of 20 carbons or more is selected from the group consisting of cis isomers of eicosenoic acid, docosenoic acid, and tetracosenoic acid.

26. The monounsaturated fatty acid and steroid combination molecule of Claim 25, where the steroid and fatty acid are linked together by a bond selected from the group consisting of ester bond, ether bond, and amide bond.

27. The monounsaturated fatty acid and steroid combination molecule of Claim 27, wherein the linkage is via an ester bond.

28. The monounsaturated fatty acid and steroid combination molecule of Claim 25, wherein the monoester fatty acid is tetracosenoic acid and the steroid is dehydroepiandrosterone (DHEA).

29. A substantially pure combination of

- a) a monounsaturated fatty acid molecule of 20 carbon atoms or more; and
- b) a molecule containing a perhydrocyclopentanophenanthrene nucleus

wherein the fatty acid and the perhydrocyclopentanophenanthrene are linked together.

30. The monounsaturated fatty acid and perhydrocyclopentanophenanthrene nucleus combination molecule of Claim 30, where the perhydrocyclopentanophenanthrene and fatty acid are linked together by a bond selected from the group consisting of ester bond, ether bond, and amide bond.

31. The monounsaturated fatty acid and perhydrocyclopentanophenanthrene nucleus combination molecule of Claim 31, wherein the perhydrocyclopentanophenanthrene nucleus is a derivative of perhydrocyclopentanophenanthrene nucleus.

32. The monounsaturated fatty acid and perhydrocyclopentanophenanthrene nucleus combination molecule of Claim 31, wherein the perhydrocyclopentanophenanthrene is an estrogen molecule.

33. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of the combination molecule of any one of claims 25-33 in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.
34. A substantially pure fatty-acid monoester of an estrone derivative or an estrogen derivative and a fatty acid, wherein the fatty acid is selected from the group consisting of oleic acid, a C-18 fatty acid, eicosenoic acid, the C-22 fatty acid, cis 13 docosenoic acid, and the C-24 fatty acid, cis 15 tetracosenoic.
35. The fatty-acid monoester according to claim 34, wherein the fatty acid is cis 11 eicosenoic acid.
36. A substantially pure fatty-acid monoester selected from the group consisting of an estrone derivative or an estrogen derivative combined with one fatty acid from the group consisting of oleic, eicosenoic, docosenoic acid and tetracosenoic acid.
37. A substantially pure fatty-acid monoester consisting of 2 hydroxy estrone monoeicosenoate.
38. A substantially pure fatty-acid monoester consisting of 2 hydroxyestradiol monoeicosenoate.
39. The substantially pure fatty-acid monoester of claim 34, wherein the estrone derivative or an estrogen derivative is 2 hydroxyestrone and the fatty acid is cis 11 eicosenoic acid.
40. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of an estrone derivative or an estrogen derivative and a fatty acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof; wherein the estrone derivative or an estrogen derivative is selected from the group consisting of estrone, diethylstilbestrol, estriol, estradiol, ethinyl estradiol, 2 hydroxy estrone, and 2 hydroxy β -estradiol and the fatty acid is selected from the group consisting of oleic acid, eicosenoic acid, the C-22 fatty acid, cis 13 docosenoic acid, and/or the C-24 fatty acid, cis 15 tetracosenoic acid.
41. The pharmaceutical and/or cosmetic composition according to claim 40, wherein said administration via is intravenous injection, and the fatty-acid monoester is integrated in a lipidic suspension.

42. The pharmaceutical and/or cosmetic composition according to claim 40, wherein said lipidic suspension is a lipoprotein suspension.
43. The pharmaceutical and/or cosmetic composition according to claim 40, wherein said lipidic suspension is a liposome suspension.
- 5 44. The pharmaceutical and/or cosmetic composition according to claim 43, wherein said liposome suspension is obtainable by addition of soy oil and egg phospholipids.
45. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof, wherein: part of the molecule is an estrone derivative or estrogen derivative; and the fatty acid is selected from the group consisting of oleic acid, eicosenoic acid, C-22 fatty acid, cis 13 docosenoic acid, and the C-24 fatty acid, cis 15 tetracosenoic acid.
- 10 46. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of estrone and eicosenoic acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof.
- 15 47. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof; wherein part of the molecule is estrone derivative or an estrogen derivative; and the fatty acid is selected from the group consisting of the fatty acid oleic acid, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid.
- 20 48. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, wherein part of the molecule is estrone derivative or an estrogen derivative; and the fatty acid is selected from the group consisting of the fatty acid oleic acid, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid, in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.
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49. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a monoester of either an estrone derivative or an estradiol derivative and eicosenoic acid in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.
50. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of the fatty acid monoester of cis 11 eicosenoic acid and estrogen in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.
51. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a substantially pure fatty-acid monoester of either an estrone derivative or an estradiol derivative, wherein part of the molecule is estrone derivative or an estrogen derivative; and the fatty acid is selected from the group consisting of the fatty acid oleic acid, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid, in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.
52. A substantially pure fatty-acid monoester of part of the molecule is estrone derivative or an estrogen derivative; and the fatty acid is selected from the group consisting of the fatty acid oleic acid, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid and with the proviso that, when the estrogen is steroidal and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester.
53. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof; wherein part of the molecule is estrone derivative or an estrogen derivative; and the fatty acid is selected from the group consisting of the fatty acid oleic acid, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid, and with the proviso that, when the estrogen is steroidal and has a steroid ring system with a C-3

position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester.

54. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof; part of the molecule is estrone derivative or an estrogen derivative; and the fatty acid is selected from the group consisting of the fatty acid oleic acid, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid, and with the proviso that, when the estrogen is steroidal and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester.

55. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, wherein the estrogen is selected from part of the molecule is estrone derivative or an estrogen derivative; and the fatty acid is selected from the group consisting of the fatty acid oleic acid, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid, and with the proviso that, when the estrone derivative or estradiol derivative is steroidal and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester, in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.

56. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a substantially pure fatty-acid monoester of an estrone derivative or an estrogen derivative; and the fatty acid is selected from the group consisting of the fatty acid oleic acid, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid, and with the proviso that, when the estrone derivative or estradiol derivative is steroidal and has a steroid ring system with a C-3

- position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester, in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.
57. The invention(s) substantially as shown and/or described herein.
58. A molecule consisting of a substantially pure combination of a monounsaturated fatty acid molecule, and an estrone derivative or estradiol derivative wherein the estrone derivative or estradiol derivative and fatty acid are linked together.
59. The monounsaturated fatty acid and estrone derivative or estradiol derivative combination molecule of claim 58, wherein the monounsaturated fatty acid molecule of 20 carbons or more is selected from the group consisting of cis isomers of oleic acid, eicosenoic acid, docosenoic acid, and tetracosenoic acid.
60. The monounsaturated fatty acid and steroid combination molecule of Claim 58, where the steroid and fatty acid are linked together by a bond selected from the group consisting of ester bond, ether bond, and amide bond.
61. The monounsaturated fatty acid and steroid combination molecule of Claim 60, wherein the linkage is via an ester bond.
62. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of the combination molecule of any one of claims 34-61 in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.
63. A precursor of the pharmaceutical composition, cosmetic composition, molecule, or substance of any prior claim.
64. The invention of claim 63, wherein the precursor is a salt.
65. The invention of claim 64, wherein the precursor is a halide salt.
66. The invention of claim 65, wherein the precursor is a bromide salt.
67. The invention of claim 66, wherein the precursor is a precursor of 2-hydroxyestrone eicosenoate.
68. The invention of claim 67, wherein the precursor is 2-bromoestrone ester of cis-11-eicosenoic acid.

69. The invention of claim 66, wherein the precursor is a precursor of 2-hydroxy estrone oleate.
70. A method of using the precursor of any one of claims 63-69 to control weight in humans.
- 5 71. A substantially pure fatty-acid monoester of an estrogen and a fatty acid, wherein the estrogen is selected from the group consisting of a 2 hydroxy derivative estrone, diethylstilbestrol, estriol and ethinyl estradiol; and the fatty acid is selected from the group consisting of oleic, arachadonic, palmitic, palmitoleic, linoleic, or linolenic, eicosenoic acid, C-22 fatty acid, cis 13 docosenoic acid, and the C-24 fatty acid, cis 15
10 tetracosenoic acid.
72. The fatty-acid monoester according to claim 1, wherein the fatty acid is oleic or cis 11 eicosenoic acid.
73. A substantially pure fatty-acid monoester selected from the group consisting of an estrogen combined with one fatty acid from the group consisting of oleic, arachadonic,
15 palmitic, palmitoleic, linoleic, linolenic, eicosenoic, docosenoic acid and tetracosenoic acid.
74. A substantially pure fatty-acid monoester consisting of 2 hydroxy estrone monoeicosenoate or 2 hydroxy oleate.
75. A substantially pure fatty-acid monoester consisting of 2 hydroxy
20 diethylstilbestrol oleate or 2 hydroxy monoeicosenoate.
76. The substantially pure fatty-acid monoester of claim 1, wherein the estrogen is 2 hydroxy estrone and the fatty acid is cis 11 eicosenoic or oleic acid.
77. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of an
25 estrogen and a fatty acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof; wherein the estrogen is selected from the group consisting of a 2 hydroxy derivative of estrone, diethylstilbestrol, estriol, estradiol and ethinyl estradiol; and the fatty acid is selected from the group consisting of oleic, arachadonic, palmitic, palmitoleic, linoleic,
30 linolenic, eicosenoic acid, the C-22 fatty acid, cis 13 docosenoic acid, and/or the C-24 fatty acid, cis 15 tetracosenoic acid.

78. The pharmaceutical and/or cosmetic composition according to claim 7, wherein said administration via is intravenous injection, and the fatty-acid monoester is integrated in a lipidic suspension.
79. The pharmaceutical and/or cosmetic composition according to claim 7, wherein
5 said lipidic suspension is a lipoprotein suspension.
80. The pharmaceutical and/or cosmetic composition according to claim 7, wherein said lipidic suspension is a liposome suspension.
81. The pharmaceutical and/or cosmetic composition according to claim 10, wherein said liposome suspension is obtainable by addition of soy oil and egg phospholipids.
- 10 82. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof, wherein:
- 15 a) the estrogen is selected from the group consisting of a 2 hydroxy derivative of estrone, diethylstilbestrol, estriol and ethinyl estradiol; and
 - b) the fatty acid is selected from the group consisting of oleic, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, C-22 fatty acid, cis 13 docosenoic acid, and the C-24 fatty acid, cis 15 tetracosenoic acid.
- 20 83. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of 2 hydroxy estrone and eicosenoic or oleic acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof.
- 25 84. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof; wherein the estrogen is selected from the group consisting of a 2 hydroxy derivative of
- 30 estrone, diethylstilbestrol, estriol and ethinyl estradiol; and the fatty acid is selected from the group consisting of the fatty acid oleic, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid.

85. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, wherein the estrogen is selected from the group consisting of a 2 hydroxy derivative of estrone, diethylstilbestrol, estriol, estradiol and ethinyl estradiol, the fatty acid is selected from the group consisting of oleic, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, C-22 fatty acid, cis 13 docosenoic acid, and the C-24 fatty acid, cis 15 tetracosenoic acid, in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.
86. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a monoester of 2 hydroxy estrone and eicosenoic or oleic acid in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.
87. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of the fatty acid monoester of cis 11 eicosenoic or oleic acid and a 2 hydroxy derivative of an estrogen in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.
88. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, wherein the estrogen is selected from the group consisting of a 2 hydroxy derivative of estrone, diethylstilbestrol, estriol and ethinyl estradiol; and the fatty acid is selected from the group consisting of oleic, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, C-22 fatty acid, cis 13 docosenoic acid, and the C-24 fatty acid, cis 15 tetracosenoic acid, in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.
89. A substantially pure fatty-acid monoester of an estrogen and a fatty acid, wherein the estrogen is selected from the group consisting of a 2 hydroxy derivative of estrone, diethylstilbestrol, estriol and ethinyl estradiol; the fatty acid is selected from the group consisting of oleic, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, C-22 fatty acid, cis 13 docosenoic acid, and the C-24 fatty acid, cis 15 tetracosenoic acid

and with the proviso that, when the estrogen is steroidal and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof; wherein the estrogen is selected from the group consisting of a 2 hydroxy derivative of estrone, diethylstilbestrol, estriol, estradiol and ethinyl estradiol; the fatty acid is selected from the group consisting of oleic, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, the C-22 fatty acid, cis 13 docosenoic acid, and/or the C-24 fatty acid, cis 15 tetracosenoic acid, and with the proviso that, when the estrogen is steroidal and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester.

90. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof; wherein the estrogen is selected from the group consisting of a 2 hydroxy derivative of estrone, diethylstilbestrol, estriol and ethinyl estradiol; the fatty acid is selected from the group consisting of the fatty acid oleic, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid, and with the proviso that, when the estrogen is steroidal and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester.

91. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a substantially pure fatty-acid monoester of an a 2 hydroxy derivative of estrogen and a fatty acid, wherein the estrogen is selected from the group consisting of a 2 hydroxy derivative of estrone, diethylstilbestrol, estriol, estradiol and ethinyl estradiol, the fatty acid is selected from the group consisting of oleic, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, C-22 fatty acid, cis

13 docosenoic acid, and the C-24 fatty acid, cis 15 tetracosenoic acid, and with the proviso that, when the estrogen is steroidal and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester, in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.

92. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, wherein the estrogen is selected from the group consisting of a 2 hydroxy derivative of estrone, diethylstilbestrol, estriol and ethinyl estradiol; the fatty acid is selected from the group consisting of oleic, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, C-22 fatty acid, cis 13 docosenoic acid, and the C-24 fatty acid, cis 15 tetracosenoic acid, and with the proviso that, when the estrogen is steroidal and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester, in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.

93. A molecule consisting of a substantially pure combination of:

- a) a fatty acid molecule, and
- b) a steroid;

wherein the steroid and fatty acid are linked together.

94. The monounsaturated fatty acid and steroid combination molecule of claim 25, wherein the fatty acid molecule is selected from the group consisting of cis isomers of oleic, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, docosenoic acid, and tetracosenoic acid.

95. The fatty acid and steroid combination molecule of Claim 25, where the steroid and fatty acid are linked together by a bond selected from the group consisting of ester bond, ether bond, and amide bond.

96. The fatty acid and steroid combination molecule of Claim 27, wherein the linkage is via an ester bond.

97. The fatty acid and steroid combination molecule of Claim 25, wherein the monoester fatty acid is tetracosenoic acid and the steroid is dehydroepiandrosterone (DHEA).

98. A substantially pure combination of

- 5 a) a fatty acid molecule; and
- b) a molecule containing a perhydrocyclopentanophenanthrene nucleus wherein the fatty acid and the perhydrocyclopentanophenanthrene are linked together.

99. The fatty acid and perhydrocyclopentanophenanthrene nucleus combination
10 molecule of Claim 30, where the perhydrocyclopentanophenanthrene and fatty acid are linked together by a bond selected from the group consisting of ester bond, ether bond, and amide bond.

100. The fatty acid and perhydrocyclopentanophenanthrene nucleus combination
15 molecule of Claim 31, wherein the perhydrocyclopentanophenanthrene nucleus is a derivative of perhydrocyclopentanophenanthrene nucleus.

101. The fatty acid and perhydrocyclopentanophenanthrene nucleus combination molecule of Claim 31, wherein the perhydrocyclopentanophenanthrene is an estrogen molecule.

102. A method of lowering body weight in a mammal comprising administering to said
20 mammal an effective amount of the combination molecule of any one of claims 25-33 in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.

103. A substantially pure fatty-acid monoester of a 2 hydroxy estrone derivative or a 2
25 hydroxy estrogen derivative and a fatty acid, wherein the fatty acid is selected from the group consisting of oleic acid, a C-18 fatty acid, arachadonic, palmitic, palmitoleic, linoleic, or linolenic acid.

104. The fatty-acid monoester according to claim 103, wherein the fatty acid is oleic or cis 11 eicosenoic acid.

30 105. A substantially pure fatty-acid monoester selected from the group consisting of a 2 hydroxy estrone derivative or a 2 hydroxy estrogen derivative combined with one fatty acid from the group consisting of oleic, arachadonic, palmitic, palmitoleic, linoleic, linolenic, oleic, eicosenoic, docosenoic acid and tetracosenoic acid.

106. A substantially pure fatty-acid monoester consisting of 2 hydroxy estrone monoeicosenoate or oleate.
107. A substantially pure fatty-acid monoester consisting of 2 hydroxyestradiol monoeicosenoate or oleate.
- 5 108. The substantially pure fatty-acid monoester of claim 103, wherein the estrone derivative or an estrogen derivative is 2 hydroxyestrone and the fatty acid is oleate or cis 11 eicosenoic acid.
109. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of a 2
- 10 hydroxy estrone derivative or a 2 hydroxy estrogen derivative and a fatty acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof; wherein a 2 hydroxy estrone derivative or a 2 hydroxy estrogen derivative is selected from the group consisting of a 2 hydroxy derivative of estrone, diethylstilbestrol, estriol, estradiol, ethinyl estradiol, 2
- 15 hydroxy estrone, and 2 hydroxy β -estradiol and the fatty acid is selected from the group consisting of oleic acid, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, the C-22 fatty acid, cis 13 docosenoic acid, and/or the C-24 fatty acid, cis 15 tetracosenoic acid.
110. The pharmaceutical and/or cosmetic composition according to claim 109, wherein
- 20 said administration via is intravenous injection, and the fatty-acid monoester is integrated in a lipidic suspension.
111. The pharmaceutical and/or cosmetic composition according to claim 109, wherein said lipidic suspension is a lipoprotein suspension.
112. The pharmaceutical and/or cosmetic composition according to claim 109, wherein
- 25 said lipidic suspension is a liposome suspension.
113. The pharmaceutical and/or cosmetic composition according to claim 112, wherein said liposome suspension is obtainable by addition of soy oil and egg phospholipids. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid
- 30 monoester in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof, wherein: part of the molecule is an estrone derivative or estrogen derivative; and the fatty acid is selected from the group consisting of oleic acid, arachadonic, palmitic, palmitoleic, linoleic,

linolenic, eicosenoic acid, C-22 fatty acid, cis 13 docosenoic acid, and the C-24 fatty acid, cis 15 tetracosenoic acid.

114. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of a 2 hydroxy derivative of estrone and eicosenoic acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof.

115. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof; wherein part of the molecule is estrone derivative or an estrogen derivative; and the fatty acid is selected from the group consisting of the fatty acid oleic acid, oleic, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid.

116. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a substantially pure fatty-acid monoester of an estrogen and a fatty acid, wherein part of the molecule is estrone derivative or an estrogen derivative; and the fatty acid is selected from the group consisting of the fatty acid oleic acid, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid, in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.

117. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a monoester of either an a 2 hydroxy estrone derivative or an a 2 hydroxy estradiol derivative and oleic or eicosenoic acid in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.

118. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of the fatty acid monoester of oleic or cis 11 eicosenoic acid and estrogen in combination with amounts of at least one member selected from the

group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.

119. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a substantially pure fatty-acid monoester of either an a 2 hydroxy estrone derivative or an a 2 hydroxy estradiol derivative, wherein part of the molecule is a 2 hydroxy estrone derivative or an estrogen derivative; and the fatty acid is selected from the group consisting of the fatty acid oleic acid, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid, in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.

120. A substantially pure fatty-acid monoester of part of the molecule is a 2 hydroxy estrone derivative or an a 2 hydroxy estrogen derivative; and the fatty acid is selected from the group consisting of the fatty acid oleic acid, oleic, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid and with the proviso that, when the 2 hydroxy estrogen is steroidal and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester.

121. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of an a 2 hydroxy estrogen and a fatty acid, in combination with at least one excipient acceptable for a predetermined administration via and in an amount sufficient for the purposes thereof; wherein part of the molecule is estrone derivative or an estrogen derivative; and the fatty acid is selected from the group consisting of the fatty acid oleic acid, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid, and with the proviso that, when the estrogen is steroidal and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester.

122. A pharmaceutical and/or cosmetic composition comprising a therapeutically and/or cosmetically effective amount of a substantially pure fatty-acid monoester of an a 2 hydroxy estrogen and a fatty acid, in combination with at least one excipient acceptable

for a predetermined administration via and in an amount sufficient for the purposes thereof; part of the molecule is a 2 hydroxy estrone derivative or an a 2 hydroxy estrogen derivative; and the fatty acid is selected from the group consisting of the fatty acid oleic acid, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid, and with the proviso that, when the estrogen is steroidal and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester.

123. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a substantially pure fatty-acid monoester of an a 2 hydroxy estrogen and a fatty acid, wherein the estrogen is selected from part of the molecule is a 2 hydroxy estrone derivative or an a 2 hydroxy estrogen derivative; and the fatty acid is selected from the group consisting of the fatty acid oleic acid, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid, and with the proviso that, when the estrone derivative or estradiol derivative is steroidal and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester, in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.

124. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of a substantially pure fatty-acid monoester of an estrone derivative or an estrogen derivative; and the fatty acid is selected from the group consisting of the fatty acid oleic acid, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, the fatty acid, cis 13 docosenoic acid, and the fatty acid, cis 15 tetracosenoic acid, and with the proviso that, when the estrone derivative or estradiol derivative, and with the proviso that, when the a 2 hydroxy estrone derivative or a 2 hydroxy estradiol derivative is steroidal and has a steroid ring system with a C-3 position and a hydroxyl group at the C-3 position, the acyl group of the fatty acid is attached to the hydroxyl group at the C-3 position of the steroid ring system in the fatty acid monoester, in combination with amounts of at least one member selected from the group consisting

of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.

125. A molecule consisting of a substantially pure combination of a) a monounsaturated fatty acid molecule, and an a 2 hydroxy estrone derivative or a 2 hydroxy estradiol derivative wherein the 2 hydroxy estrone derivative or 2 hydroxy estradiol derivative and fatty acid are linked together.

126. The monounsaturated fatty acid and the 2 hydroxy estrone derivative or the 2 hydroxy estradiol derivative combination molecule of claim 125, wherein the fatty acid molecule is selected from the group consisting of cis isomers of oleic acid, arachadonic, palmitic, palmitoleic, linoleic, linolenic, eicosenoic acid, docosenoic acid, and tetracosenoic acid.

127. The monounsaturated fatty acid and steroid combination molecule of Claim 125, where the steroid and fatty acid are linked together by a bond selected from the group consisting of ester bond, ether bond, and amide bond.

128. The monounsaturated fatty acid and steroid combination molecule of Claim 127, wherein the linkage is via an ester bond.

129. A method of lowering body weight in a mammal comprising administering to said mammal an effective amount of the combination molecule of any one of claims 103-127 in combination with amounts of at least one member selected from the group consisting of pharmaceutically acceptable excipients and cosmetically acceptable excipients in an amount sufficient for the purposes thereof.

130. A precursor of the pharmaceutical composition, cosmetic composition, molecule, or substance of any prior claim.

131. The invention of claim 130, wherein the precursor is a salt.

132. The invention of claim 131, wherein the precursor is a halide salt.

133. The invention of claim 132, wherein the precursor is a bromide salt.

134. The invention of claim 133, wherein the precursor is a precursor of 2-hydroxyestrone eicosenoate or oleate.

135. The invention of claim 134, wherein the precursor is 2-bromoestrone ester of cis-11-eicosenoic acid.

136. The invention of claim 133, wherein the precursor is a precursor of 2-hydroxy estrone oleate.

137. A method of using the precursor of any one of claims 130-136 to control weight in humans.